

To:

PCT

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

FOR FURTHER ACTION  
See paragraph 2 below

International application No.  
PCT/EP2004/053279

International filing date (day/month/year)  
06.12.2004

Priority date (day/month/year)  
13.05.2004

International Patent Classification (IPC) or both national classification and IPC  
G01N27/447

Applicant  
AGILENT TECHNOLOGIES, INC.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material:  
 in written format  
 in computer readable form
  - c. time of filing/furnishing:  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-33
Inventive step (IS)	Yes: Claims	
	No: Claims	1-33
Industrial applicability (IA)	Yes: Claims	1-33
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item V.**

1. Reference is made to the following documents:

- D1: DE 199 27 535 A1 (MERCK PATENT GMBH; GESELLSCHAFT ZUR FOERDERUNG DER SPEKTROCHEMIE UND A) 4 January 2001 (2001-01-04)  
D2: EP-A-0 653 631 (ACLARA BIOSCIENCES, INC; NOVARTIS AG; CIBA-GEIGY AG) 17 May 1995 (1995-05-17)  
D3: GRASS B ET AL: "A NEW PMMA-MICROCHIP DEVICE FOR ISOTACHOPHORESIS WITH INTEGRATED CONDUCTIVITY DETECTOR" SENSORS AND ACTUATORS B, ELSEVIER SEQUOIA S.A., LAUSANNE, CH, vol. B72, no. 3, 10 February 2001 (2001-02-10), pages 249-258, XP001182458 ISSN: 0925-4005  
D4: WO 01/59440 A (ACLARA BIOSCIENCES INC) 16 August 2001 (2001-08-16)  
D5: WO 2005/068993 A (CALIPER LIFE SCIENCES, INC; WAKO PURE CHEMICAL INDUSTRIES, LTD) 28 July 2005 (2005-07-28)

2. Novelty:

Independent claims 1 and 20 are so broad, that the subject-matter of these claims is anticipated by D1. D1 discloses a device for injection of a sample specimen comprising an injection channel (K3) having a sample injection spot (Vz), an injector (L2, L3) for injecting the specimen into the fluid along the injection channel, a separation device (K5) adopted for separating a sample from the specimen at the sample injection spot (see figure 4), and a control unit (column 9, line 50/51). D1 furthermore discloses a method for extracting a sample of a specimen, comprising the steps of providing the specimen, detecting the specific relative conductivity, and extracting the sample dependant of the measured quantity (column 8, line 24-31).

A similar argument would apply with respect to D2, D3 and D4. D2 discloses injection spots (3) and (5) for separation channels (2) and (7), see figure 1; D3 is similar to D1 with separation channels SC1 and SC2, see figure 5; and D4 is also related to a microfluidic system for use in injecting a defined volume liquid sample into a capillary electrolyte channel, see page 11.

As a consequence, the subject-matter of claims 1 and 20 is not new over the prior art (Article 33(2) PCT).

The subject-matter of dependent claims 2-19 and 21-33 seems to be related to details which a skilled person would derive from D1, and is considered to be not novel over D1 (Article 33(2) PCT).

3. D5 was published after the priority date of the present application, but claims an older priority, and thus might become relevant prior art during substantive examination of the application.
4. Inventive step:

The subject-matter of the present claims is not inventive because the prior art documents D1-D4 disclose the problem of sample injection and the proposed solution of an injection channel with an injection spot and a separation device using the principle of electrophoresis. The details of the dependent claims are considered to be slight constructional changes which a skilled person would employ without inventive activity (Article 33(3) PCT).

**Re Item VII.**

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 - D4 is not mentioned in the description, nor are these documents identified therein.
2. Claims 1-33 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

**Re Item VIII.**

1. Independent claim 1 is related to loading of a sample whereas the method claim 20 refers to extraction of a sample. The subject-matter of the claims would appear clearer, if claims to a device and the method were drafted in corresponding words (Article 6 PCT).
2. Method claim 21 refers back to apparatus claim 19 which leads to a doubt about the category of that claim. In the present opinion the claim was interpreted to refer back to claim 20.